PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 25 (FALLS RD.) AND LAKE AVENUE IN BALTIMORE COUNTY. MD 25 (FALLS RD.) IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

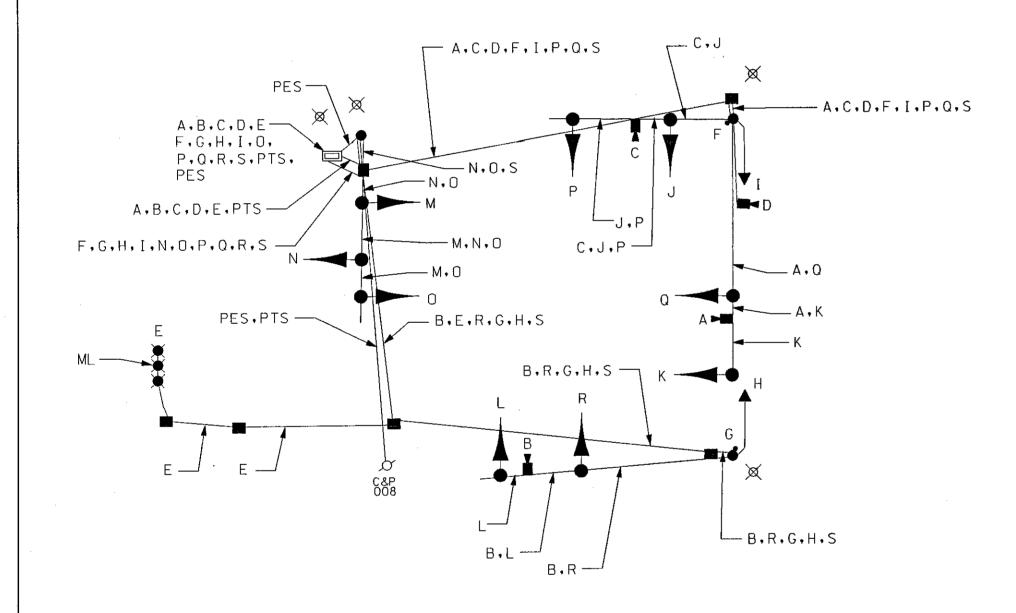
AN EIGHT-PHASE, FULLY ACTUATED NEMA CONTROLLER WITH VIDEO DETECTION INTERFACE EQUIPMENT, INTERSECTION MONITOR AND BATTERY BACKUP FOR PHONE DROP, AND ONE 4-CHANNEL TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER HOUSED IN A BASE MOUNTED CABINET WILL BE INTALLED AT THIS INTERSECTION. THE CONTROLLER WILL OPERATE AS A FIVE-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH AN EXCLUSIVE-PERMISSIVE LEFT TURN PHASE FOR SOUTHBOUND MD 25 AND AN ALTERNATE PEDESTRIAN PHASE ACROSS THE SOUTH LEG OF MD 25.

SPECIAL NOTE

UPON COMPLETION OF THIS PROJECT THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF THE SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION.

THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

WIRING DIAGRAM



WIRING KEY

- A-D VIDEO DETECTION 200 FT. PREMANUFACTURED CABLE
- E MICRO-LOOP PROBE
- F-G 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- H-I 3 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- J-M 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- N-R 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- S STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- PES PROPOSED ELECTRIC SERVICE
- PTS PROPOSED TELEPHONE SERVICE
- ML MICRO-LOOP PROBE

PHASING CHART

	1	2	3	4	5	6	7	8	9	10	11	
	R Y G	R Y G	TY-O	(R) (QY-) Y) (QB-) G	R Y G	R Y G	R Y G	(P)	R Y G	师 子	<u>\$</u>	
PHASE 2 & 5	R	R	G ⊲G−		G	R	R	R	R	DW	DW	1 分日
2 & 5 CHANGE	R	R	G ⊲Y-	G ⊲Y−	G	R	R	R	R	DW	DW	
PHASE 2 & 6	G	G	G	G	G	R	R	R	R	DW	DW	
2 & 6 CHANGE	Υ	Υ	Y	Υ	Υ	R	R	R	R	DW	DW	√
PHASE 4 & 8	R	R	R	R	R	G	G	G	G	DW	DW	71
4 & 8 CHANGE	R	R	R	R	R	Υ	Υ	Υ	Υ	DW	DW]- \
PHASE 4 ALT. & 8	R	R	R	R	R	G	G	G	G	WK	WK	19
PED CLEAR	R	R	R	R	R	G	G	G	G	FL/DW	FL/DW	
4 ALT.& 8 CHANGE	R	R	R	R	R	Υ	Υ	Υ	Υ	DW	DW	- -
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	1 A 1 1 2 +

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED BY MSHA AND INSTALLED BY THE CONTRACTOR.

ITEM NO	QUANTITY	DESCRIPTION
9016	1 EA	4-CHANNEL DETECTOR AMPLIFIER
9042	1 EA	CONTROLLER ASC II WITH TELEMETRY
9571	44 SF	SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGN
	22 SF	R10-12 SIGN (36" X 42")
	22 SF	D3-2 SIGN "Lake AVE" (VAR. X 16")
9044	1 EA	CABINET INTERSECTION MONITOR, SIZE 6 AND BATTERY BACKUP
	NOTE: EQUIPMENT	LISTED BELOW TO BE FURNISHED AND INSTALLED BY MSHA.
9086	1 EA	VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS

CONTACT PERSONS FOR DISTRICT 4 ARE AS FOLLOWS:

MR. RANDALL SCOTT ASSISTANT DISTRICT ENGINEER - TRAFFIC (410) 321-2781

MR. STEVE MARCISZEWSKI ASSISTANT DISTRICT ENGINEER - MAINTENANCE (410) 321-2761

MS. SUENETTE POPE ASSISTANT DISTRICT ENGINEER - UTILITIES (410) 321-2841

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR. CHIEF, TRAFFIC OPERATIONS (410) 787-7630

MR. ROBERT SNYDER ASSISTANT DIVISION CHIEF. TRAFFIC OPERATIONS (410) 787-7631

MR. ED RODENHIZER TEAM LEADER SIGNAL OPERATIONS (410) 787-7652

MR. EUGENE BAILEY TEAM LEADER SIGN OPERATIONS (410) 787-7676

MS. DARLENE EIDE SUPPLY OFFICE SIGNAL SHOP WAREHOUSE (410) 787-7668

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

1001 3 FA	ITEM NO.	QUANTITY	DESCRIPTION
2002	1001	3 EA	MAINTENANCE OF TRAFFIC
8000			
8002			
8008		4 EA	FURNISH AND INSTALL 12 IN. PEDESTRIAN SIGNAL HEAD SECTION
8019		4 EA	FURNISH AND INSTALL 200 FT. VIDEO CABLE TO CONTROLLER
8030 30 LF FURNISH AND INSTALL 1 IN. GALVANIZED RISER 8037 280 LF FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED 8038 20 LF FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED 8039 25 LF FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED 8043 10 LF FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED 8045 1 EA FURNISH AND INSTALL 1 IN. LIQUID TIGHT, FLEXIBLE, NON-METALLIC CONDUIT FOR DETECTOR SLEEVE 8046 50 LF FURNISH AND INSTALL ELECTRICAL SERVICE EQUIPMENT 240 VOLTS 60 AMPS 8048 1 EA FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR NO.4 AWG 8048 1 EA FURNISH AND INSTALL MICRO-LOOP PROBE SET WITH 500 FT. 8052 2 EA FURNISH AND INSTALL ELECTRICAL HANDHOLE 8055 44 SF INSTALL OVERHEAD SIGN 8056 4 EA FURNISH AND INSTALL STEEL POLE WITH 18 N FO. FT. MAST ARMS 8060 1 EA FURNISH AND INSTALL STEEL POLE WITH 18 N FO. FT. MAST ARMS 8061 1 EA FURNISH AND INSTALL STEEL POLE WITH 38 FT. MAST ARM 8062 1 EA FURNISH AND INSTALL STEEL POLE WITH 50 FT. MAST ARM 8062 1 EA FURNISH AND INSTALL STEEL POLE WITH 50 FT. MAST ARM 8073 4 EA FURNISH AND INSTALL STEEL POLE WITH 50 FT. MAST ARM 8074 3 EA FURNISH AND INSTALL STEEL POLE WITH 50 FT. MAST ARM 8075 33 EA FURNISH AND INSTALL STEEL POLE WITH 50 FT. MAST ARM 8076 2 EA CLEAN. CUT AND GALVANIZE TREFTIC SIGNAL HEAD SECTION 8078 2 EA FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION 8078 2 EA CLEAN. CUT AND GALVANIZE TRAFTIC SIGNAL HEAD SECTION 8080 2 FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR 8081 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR 8081 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR 8083 90 LF FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR 8084 750 LF FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR 8087 325 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR 8088 2 EA FURNISH AND INSTALL 5 FT. STREET LIGHTING ARM FOR SIGNAL 8089 1 EA FURNISH AND INSTALL 5 FT. STREET LIGHTING ARM FOR SIGNAL 8089 1 EA FURNISH AND INSTALL 5 FT. STREET		LS	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
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8055 44 SF INSTALL OVERHEAD SIGN 8056 4 EA FURNISH AND INSTALL VIDEO DETECTION CAMERA 8060 1 EA FURNISH AND INSTALL STEEL POLE WITH TWIN 50 FT./50 FT. MAST ARMS 8061 1 EA FURNISH AND INSTALL STEEL POLE WITH 38 FT. MAST ARM 8062 1 EA FURNISH AND INSTALL STEEL POLE WITH 50 FT. MAST ARM 8073 4 EA FURNISH AND INSTALL STEEL POLE WITH 50 FT. MAST ARM 8073 4 EA FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FT. 8074 3 EA FURNISH AND INSTALL 8 IN. VEHICULAR SIGNAL HEAD SECTION 8075 33 EA FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION 8078 2 EA CLEAN. CUT AND GALVANIZE TRAFFIC SIGNAL STRUCTURE 8081 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR NO. 14 AWG 8082 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR NO. 14 AWG 8083 90 LF FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG 8084 750 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG 8087 325 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR 8088 2 EA FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE			LEAD-IN
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8060 1 EA FURNISH AND INSTALL STEEL POLE WITH TWIN 50 FT./50 FT. MAST ARMS 8061 1 EA FURNISH AND INSTALL STEEL POLE WITH 38 FT. MAST ARM 8062 1 EA FURNISH AND INSTALL STEEL POLE WITH 50 FT. MAST ARM 8073 4 EA FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FT. 8074 3 EA FURNISH AND INSTALL 8 IN. VEHICULAR SIGNAL HEAD SECTION 8075 33 EA FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION 8078 2 EA CLEAN, CUT AND GALVANIZE TRAFFIC SIGNAL STRUCTURE 8081 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR NO. 14 AWG 8082 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR NO. 14 AWG 8083 90 LF FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG 8084 750 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG 8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE	8055	44 SF	INSTALL OVERHEAD SIGN
### Such and the properties of	8056	4 EA	FURNISH AND INSTALL VIDEO DETECTION CAMERA
### SUBSTRACT ##	8060	1 EA	FURNISH AND INSTALL STEEL POLE WITH TWIN 50 FT. /50 FT. MAST ARMS
### SURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FT. ### LENGTH ### BO74	8061	1 EA	FURNISH AND INSTALL STEEL POLE WITH 38 FT. MAST ARM
LENGTH 8074 3 EA FURNISH AND INSTALL 8 IN. VEHICULAR SIGNAL HEAD SECTION 8075 33 EA FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION 8078 2 EA CLEAN, CUT AND GALVANIZE TRAFFIC SIGNAL STRUCTURE 8081 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR NO. 14 AWG 8082 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR NO. 14 AWG 8083 90 LF FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG 8084 750 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG 8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE	8062	1 EA	FURNISH AND INSTALL STEEL POLE WITH 50 FT. MAST ARM
8075 33 EA FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION 8078 2 EA CLEAN, CUT AND GALVANIZE TRAFFIC SIGNAL STRUCTURE 8081 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR NO. 14 AWG 8082 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR NO. 14 AWG 8083 90 LF FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG 8084 750 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG 8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE	8073	4 EA	
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FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR NO. 14 AWG 8082 270 LF FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR NO. 14 AWG 8083 90 LF FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG 8084 750 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG 8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE	8075	33 EA	FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION
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FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR NO. 14 AWG 8083 90 LF FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG 8084 750 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG 8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE	8081	270 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR
NO. 14 AWG 8083 90 LF FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG 8084 750 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG 8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE			NO. 14 AWG
FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG 8084 750 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG 8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE	8082	270 LF	FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR
NO. 14 AWG 8084 750 LF FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG 8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE			NO. 14 AWG
FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG 8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE	8083	90 LF	FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR
NO. 14 AWG 8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE			NO. 14 AWG
8087 325 LF FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR 8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE	8084	750 LF	FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR
8088 2 EA FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND SIGN 8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE			NO. 14 AWG
8089 1 EA FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE	8087	325 LF	
POLE			
	8089	1 EA	
8094 1 EA INSTALL CUNTRULLER AND CABINET BASE MUUNT			
	8094	1 EA	INSTALE CUNTRULLER AND CABINET BASE MOUNT

EQUIPMENT LIST "C"

C. SHA FORCES SHALL REMOVE CONTROLLER AND ALL AUXILLARY EQUIPMENT. CABINET AND ALL OTHER MATERIAL TO BE REMOVED BY THE CONTRACTOR AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

ITEM NO.

QUANTITY

DESCRIPTION

TRAFFIC CONCEPTS INC. 325 Gambrills Road Suite E

SHA # : BAY 15/A TOD# : AT 557-18 MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safetv

TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION MD 25 (FALLS ROAD) AND LAKE AVENUE

DRAWN BY: M.HOWELL F.A.P. NO. 4204B-GI AT3575185 CHECKED BY: T.ZAYDEL S.H.A. NO. SHEET NO. BALTIMORE T.I.M.S. NO. COUNTY: 2 OF 2 F160 LOG MILE: 03002500.08 1-13-04

SCALE:

DATE:

Gambrills, MD 21054 (410) 923–7101